

Over the Horizon Underwater Communications

NOTE: The Solicitations and topics listed on this site are copies from the various SBIR agency solicitations and are not necessarily the latest and most up-to-date. For this reason, you should use the agency link listed below which will take you directly to the appropriate agency server where you can read the official version of this solicitation and download the appropriate forms and rules.

The official link for this solicitation is: <http://www.acq.osd.mil/osbp/sbir/solicitations/index.shtml>

Agency:
Department of Defense

Release Date:
November 16, 2012
Branch:
Special Operations Command

Open Date:
November 16, 2012
Program / Phase / Year:
SBIR / na / 2013

Application Due Date:
January 16, 2013

Solicitation:
[2013.1](#)

Close Date:
January 16, 2013
Topic Number:
SOCOM13-002

Description:

OBJECTIVE: Communicate from a minimum depth of three (3) meters underwater to overhead SATCOM receiver. **DESCRIPTION:** Most maritime Tagging, Tracking, and Locating devices operate using acoustic sensors or need to break the surface of the water to communicate. Acoustic devices produce a detectable acoustic signature and are limited on the range between the tracking device and the receiver. Tracking devices that require being above the surface to communicate present a visual indicator of the tracking operation. The focus of this SBIR topic is to develop the capability to make a data link from below the surface of the water to communicate with an overhead SATCOM receiver in near real time. **PHASE I:** Conduct a feasibility study to develop an underwater tracking device capable of tracking and transmitting in near real time the location, speed, and heading of the device without breaking the surface of the water. The objective of the Phase I feasibility study is to determine what is in the art of the possible to maximize the following performance parameters realizing that only the minimum performance requirements are specified: a. Communicate from a minimum depth of 3 meters underwater to an overhead SATCOM receiver in the 1616-1626 MHz, L-Band range b. Operate unattended for a minimum of 30 days communicating with satellites in a low earth orbit transmitting and receiving at least once a day c. Transmit and receive a minimum of 250 bytes per Short Burst Data data message at a minimum of 2.2 Kbit/s d. Minimum size is 6"x4"x1"e. Operate in both salt and fresh water environments The objective of this USSOCOM Phase I SBIR effort is to conduct and document the results of a thorough feasibility study to investigate what is in the art of the possible within the given trade space that will satisfy a needed technology. The feasibility study should investigate all known options that meet or exceed the minimum performance parameters specified in the Phase I topic write-up. It should also address the risks and potential

payoffs of the innovative technology options that are investigated and recommend the option that best achieves the objective of this technology pursuit. The funds obligated on the resulting Phase I SBIR contracts are to be used for the sole purpose of conducting a thorough and comprehensive feasibility study using scientific experiments and laboratory studies as necessary. Operational prototypes will not be developed with USSOCOM SBIR funds during Phase I feasibility studies. Operational prototypes developed with other than SBIR funds that are provided at the end of Phase I feasibility studies will not be considered in deciding what firm(s) will be invited to Phase II. All offerors shall include as part of the Phase I proposal the transportation costs for two round trips to travel to Tampa, Florida, for two separate meetings. The first travel requirement shall be the Phase I Kick-Off meeting and the second travel requirement shall be for the Phase I Out-Brief meeting. The Principal Investigator and all other representatives needed to discuss the offeror's technology pursuit shall attend the Phase I Kick-Off and Out-Brief meetings. PHASE II: Demonstrate a prototype positioned three (3) meters underwater to connect and send data to SATCOM in both salt and fresh water environments at or better than the performance parameters described in Phase I above. PHASE III DUAL-USE APPLICATIONS: Joint tracking capabilities for Federal and DoD organizations. Commercial underwater communication applications. REFERENCES: None